



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,201	09/20/2006	Anthony William Miles	107687.00013	7816
25555	7590	08/31/2010	EXAMINER	
JACKSON WALKER LLP 901 MAIN STREET SUITE 6000 DALLAS, TX 75202-3797			VO, HAI	
			ART UNIT	PAPER NUMBER
			1787	
			MAIL DATE	DELIVERY MODE
			08/31/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,201

Applicant(s)

MILES ET AL.

Examiner

Hai Vo

Art Unit

1787

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50, 52 and 57-60 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 20-50, 52 and 57-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The art rejections over Heidi et al. (US 2002/0165616) have been withdrawn in view of the present amendment. Heidi does not teach or suggest the walls defining the cells within the material being hollow.
2. Other art rejections are maintained.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear and confusing as to what is meant by "a wall between two cells". Does it take two cells to form a wall? It is suggested that incorporation of each wall defining a cell has two wall ceramic material layers and a hollow cavity is extending between the two wall ceramic material layers.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 14-16 and 19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 254 557. EP'557 teaches a filter of a porous sintered ceramic body having approximately the form of a positive image of an open celled foam material (example 1). Since EP'557 uses the same approach as disclosed in the present invention to form the porous sintered ceramic body, the walls defining the cells within the material will be inherently hollow due to removal of the foam material during sintering. The foam cells are elongated with the ratio b/a of the average major axis b to the average minor axis a of the cells of 1.9 (example 1). EP '557 does not specifically disclose the filter having a breaking stress of more than 1 MPa. However, it appears that a filter of a porous sintered ceramic body has approximately the form of a positive image of an open celled foam material (example 1). Since EP'557 uses the same approach as disclosed in the present invention to form the porous sintered ceramic body, the walls defining the cells within the material will be inherently hollow due to removal of the foam material during sintering. The foam cells are elongated with the ratio b/a of the average major axis b to the average minor axis a of the cells of 1.9 (example 1). Therefore, it is not seen that

the breaking stress would be outside the claimed range as like material has like property. The recitation that the article is a "bone substitute material" has not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause, *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951). Accordingly, EP'557 anticipates or strongly suggests the claimed subject matter.

8. The art rejections over EP'557 have been maintained for the following reasons. Applicants allege that EP'557 fails to teach the filter having a breaking stress of more than 1 MPa because the filter is made from a different material. The arguments are not commensurate in scope with the claims. EP'557 teaches a filter made from a porous ceramic material. Nothing in the claims is specific about calcium phosphate as asserted by Applicants. The filter of the prior art is not compositionally and structurally different from the claimed bone substitute material. It seems from the claim, if one meets the structure recited, the properties must be met or Applicants' claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). Accordingly, the art rejections are maintained.
9. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (US 2005/0158535) in view of EP 254 557. Zhang teaches a filter of a porous sintered ceramic body having approximately the form of a positive image of an open celled foam material (paragraphs 62 and 63). Since Zhang

uses the same approach as disclosed in the present invention to form the porous sintered ceramic body, the walls defining the cells within the material will be inherently hollow due to removal of the foam material during sintering. The material has a macroporosity in the range of 40 to 78%, a compressive strength ranging from 5 MPa to 10 MPa and an average pore size of 100 to 300 microns (paragraphs 37 and 40). Zhang does not specifically disclose the foam pores being oriented in a manner such that the foam pores have a length in one direction greater than a length in a perpendicular direction. EP'557, however, teaches a filter of a porous sintered ceramic body having approximately the form of a positive image of an open celled foam material (example 1). The foam cells are elongated with the ratio b/a of the average major axis b to the average minor axis a of the cells of 1.9 (example 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the foam pores oriented in a manner as taught by EP'557 motivated by the desire to provide a great reducing effect on pressure loss while maintaining the purifying capacity.

10. The art rejections over Zhang in view of EP'557 have been maintained for the following reasons. Applicants contend that the compressive strength of between 5 MPa to 10 MPa is inconsistent with the limitation of a breaking stress of more than 1 MPa. The arguments are not quite understood. Any values from 5 to 10 MPa is greater than 1 MPa. The range from 5 to 10 MPa reads on the claimed limitation. Further, Applicants allege that EP'557 fails to teach the filter having a

breaking stress of more than 1 MPa because the filter is made from a different material. The arguments are not commensurate in scope with the claims.

EP'557 teaches a filter made from a porous ceramic material. Nothing in the claims is specific about calcium phosphate as asserted by Applicants. The prior art filter is compositionally, structurally the same as the claimed bone substitute. It seems from the claim, if one meets the structure recited, the properties must be met or Applicants' claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). In addition, it is reminded that EP'557 is relied upon for teaching of the porous sintered ceramic body having the cells in the elongate form. There is no need for EP'557 to address the bone substitute material made from a porous sintered calcium phosphate because such was already mentioned by Zhang. Accordingly, the art rejections are maintained.

11. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Twigg et al. (US 4,810,685) in view of EP 254 557. Twigg discloses a filter comprising a ceramic foam having approximately the form of a positive image of an open celled foam material by impregnation of the foam material with a ceramic slurry, followed by drying and firing the impregnated foam to remove the foam material and to cause the ceramic material to sinter (abstract). Likewise, it is clearly apparent that the walls defining the cells within the catalyst will be inherently hollow as the same approach for making a porous sintered ceramic material is employed. The filter has a porosity of 64%, an average pore size in the range 20 to 300 microns (abstract, example 1). Since the breaking stress is

dictated by the porosity and pore size, it is not seen that the breaking stress could be outside the claimed range as the porosity and pore size are within the claimed ranges. Twigg does not specifically disclose the foam pores oriented in a manner such that the foam pores have a length in one direction greater than a length in a perpendicular direction. EP'557, however, teaches a filter of a porous sintered ceramic body having approximately the form of a positive image of an open celled foam material (example 1). The foam cells are elongated with the ratio b/a of the average major axis b to the average minor axis a of the cells of 1.9 (example 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the foam pores oriented in a manner as taught by EP'557 motivated by the desire to provide a great reducing effect on pressure loss while maintaining the purifying capacity. Note that, the recitation that the article is a "bone substitute material" has not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause, *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

12. The art rejections over Twigg have been maintained for the following reasons.

Applicants allege that Twigg fails to teach the ceramic foam having a breaking stress of more than 1 MPa because the ceramic foam is made from a different material. The arguments are not commensurate in scope with the claims.

Nothing in the claims is specific about calcium phosphate as asserted by Applicants. The ceramic foam of the prior art is not compositionally and structurally different from the claimed bone substitute material. It seems from the claim, if one meets the structure recited, the properties must be met or Applicants' claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). Further, Applicants allege that EP'557 fails to teach the filter having a breaking stress of more than 1 MPa because the filter is made from a different material. The arguments again are not commensurate in scope with the claims. Nothing in the claims is specific about the ceramic material which is calcium phosphate. The filter of the prior art is not structurally and compositionally different from the claimed bone substitute material. Accordingly, the art rejections are maintained.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Vo/
Primary Examiner, Art Unit 1787